Re: What to use for timing in alarm circuits?

Source: http://sci.tech−archive.net/Archive/sci.electronics.basics/2007−04/msg00027.html

- *From*: jasen <jasen@xxxxxxxxxxx>
- *Date*: 1 Apr 2007 02:25:04 GMT

On 2007−03−31, sundar <sundaryourfriend@xxxxxxxxx> wrote:

> Hi,
>
> I would like to make a small timed alarm to gift a friend. What I have in mind is an input consisting of 3 'up arrow−marked' buttons so that the user can cycle through all values of input (hours, minutes and seconds). Then, when user presses the alarm enable button, this value is fed to a timing circuit that makes the alarm ring after the set time. Now, here is where I need help. The only reliable timing circuit I can think of (with my admittedly limited electronics knowledge) is a microprocessor, but that seems an overkill for such a simple thing. I have also heard about a programmable timer 8253, but it has always been explained in terms of interfacing with a uP, so I'd like to know whether I can use it as an independent timer.

the 8253 is not really suited it's basically a programmable clock divider

hmm, you'd want something like a 14553 but one that could count both up and down.

the easiest way is may be to salvage the timer from an old microwave oven

> And as a side note, I would also like the user to be able to choose among a few alarm sounds. Would it be better to design something like here: http://www.noiseboy.net/nb.asp?page=elec/alevel/melodygen.htm or would it be more sensible to use one of those multi−tone generator ICs? I'm ready to take a little PITA if that would mean a significant reduction of cost.. :)

If you want to build from scratch, IMO best solution is the microcontroller, something like a ATTiny2313 could do most of the work.

Here's how to get a melody out of it's predecessor with minimal external

components (I wired it the out pin straight to the amplifier input)
<http://geocities.com/jasen_betts/polyphonic/index.html>

The same code should work on the new chip too... if I remember I'll test it tomorrow.

Clock applications using microcontrollers have no doubt been done to death elsewhere on the WWW. No introduction to microcontrollers is complete without atleast 1 lcd clock.... :)

Bye.
Jasen

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